Central Coast Water Board

Central Coast Water Quality Control Board

Hydromodification Control
&
Low Impact Development
Implementation

Charette Packet

Central Coast Water Board

AGENDA

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"The term 'charrette' is adopted from the storied practice of Ecole des Beaux Arts architectural students in nineteenth century Paris who reputedly could be seen still drawing their projects until the last minute as they were carried on the 'cart' or en charrette on the way to the design jury."

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CHARETTE OBJECTIVES

1) Provide introduction to the Joint Effort Hydromodification Project

2) Develop recommendations for Project Milestones for the Joint Effort Hydromodification Project

When we complete this Charette, we want to have:

1) A clear understanding of the Joint Effort

2) A Shared awareness of the full array of requirements for a successful municipal program for LID and hydromodification control for new and re-development projects

3) Agreement on recommended Project Milestones

4) Newfound friends and partners for creating successful programs!

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SUMMARY
SCOPE OF WORK

FOR

JOINT EFFORT PROJECT
To Develop and Implement Hydromodification Control Criteria Methodology For the Central Coast Region and Other California Municipalities

The $600K approved by the State Water Resources Control Board to support the Joint Hydromodification Effort addresses the first phase of work in the development of hydromodification control criteria. The Contractor, working with participating municipalities, will derive local hydromodification criteria from local climatic and landscape conditions, including field verification. This effort, which will be applied throughout the Central Coast Region, will also provide the critical tool (i.e., hydromodification control methodology) and conduct the basic analysis needed to develop clear, science-based stormwater control criteria. This is not a study or research exercise but the actual nuts-and-bolts tasks needed to move municipalities toward improved stormwater management. The project will include a review of, and build on, work already conducted by some municipalities in the California, such as City of Santa Maria, Contra Costa County, and San Diego County. Specific deliverables resulting from the $600,000 effort will benefit both regional and state stormwater programs and will include:

Regional Scale: Hydromodification control methodology and preliminary engineering analysis for 30-60 municipalities in Region 3. This product will assist the Central Coast Region's Phase II municipalities to incorporate hydromodification criteria into their stormwater management plans and to utilize LID design principles to achieve those criteria.

Statewide Scale: Development guidelines that will assist State and Regional Boards in directing municipalities how to successfully develop scientifically sound and understandable hydromodification criteria.

Statewide Scale: A white paper report providing the foundation for the development of cap-and-trade tools necessary to evaluate the impact of hydromodification management controls to achieve real, quantifiable, and cost-effective environmental benefits (e.g., improved surface water quality, water supply replenishment, and reductions of greenhouse gases).

Budget Requirements and Funding Sources

The estimated total cost to develop the Hydromodification Control Criteria is between $1.5 and $2 million. This proposal would provide $600,000 of that total amount. The

Central Coast Water Board is seeking additional funding including Central Coast Water Board Settlement Funds, Proposition 84 Stormwater Funds, American Recovery and Reinvestment Act (ARRA) dollars, and direct contribution from participating municipalities. Lastly, the Central Coast Low Impact Development (CCLID) Center, established by the Water Board in 2008 to provide services within the Central Coast Region, may provide additional resources to contribute to this effort. However, if additional funding beyond this proposal is not obtained, the work done under this proposal will provide a vital foundation for municipalities to do the remaining work on their own or in collaboration to comply with the Central Coast Water Board's hydromodification requirements.

Specific Tasks, Budget, and Schedule

The Contractor will use the State funds to do the following tasks in the Joint Effort:

Table 1: Breakdown of Tasks, Cost, and Schedule for the $600,000 State Funds

Task	Title	Description	Cost	Duration
1	Statement of Problem and Objectives	▪ Characterize the problem of "hydromodification" to encompass the downstream impacts of urbanization, including impaired water quality, channel instability, and altered water budgets. ▪ Layout objectives of the project, focusing on data reduction techniques, assessment methods, and providing municipal hydromodification control implementation strategies.	$40K	100 days
2	Data Availability, Literature Review, and creation of the Hydromodification Control Methodology	▪ Assessment of local climate and landscape conditions. ▪ Review and obtain most useful products of existing studies. ▪ Define Hydromodification Control Criteria development methodology (i.e. the engineering and geomorphologic "recipe" municipalities will use to develop their numeric hydromodification control criteria).	$60K	130 days
3	Region-wide Watershed Characterization for Hydromodification Control	▪ Gather watershed data, including meteorological data, channel characteristics, special species, fish use, land use, impervious areas, land use, soil types, slope, water quality, and groundwater conditions. ▪ Collect field data to fill gaps. ▪ Identify and classify representative subwatershed areas with similar characteristics (a.k.a. hydrologic response units [HRUs]). ▪ Identify and classify representative receiving waterbodies with similar biological and physical characteristics.	$500K	340 days

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SCHEDULE OF JOINT EFFORT

The Joint Effort from Start to Finish

Water Board Notification Letter	August 4, 2009
Stakeholder Input to Develop Project Milestones	August 27 to September 8, 2009
Water Board Offer to Participate (Letter including Project Milestones)	Mid-October, 2009
Present Joint Effort Strategy to Water Board	October 23, 2009
Commence 2-yr Collaborative Effort (see schedule below)	November 2009
Apply Hydromodification Criteria	November 2011

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Two-Year Schedule of Joint Effort

		Develop Hydromod Control Criteria	Implement Hydromod Control Program
Commence 2-Year Joint Effort **Milestone Reporting →**	**YEAR 1**	**Develop Methodology/Watershed Characterization (State-funded Work)**	**Milestones** **Project**
Milestone Reporting → **Milestone Reporting →** **Water Board Staff Reviews Hydromodification Criteria →**	**YEAR 2**	**Develop Criteria**	**Complete**

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CHARETTE EXERCISES TO DEVELOP PROJECT MILESTONES

This series of exercises is intended to generate ideas for appropriate project milestones for municipalities to complete as part of the Joint Effort. These milestones are the actions that a municipality needs to take to develop and implement a successful hydromodification control program. The exercises focus on the components of a successful hydromodification and LID program (Table 1).

Project Milestones Defined:

- Project Milestones are specific actions a municipality will undertake to ensure they are making continual progress over the two-year period toward successful implementation of hydromodification control criteria
- And, they are the Water Board's measures of a municipality's compliance with the Municipal Stormwater Permit; (i.e., the milestones developed here could replace or modify post-construction permit requirements now contained in SWMPs)
- So, Project Milestones are both the necessary steps to creating successful programs to implement LID and control hydromodification, AND measures to demonstrate regulatory compliance.

Before We Get Started: A Few thoughts on How to Create Good Project Milestones:

1) How does the milestone relate to current SWMP requirements (BMPs and MGs)?
2) Does the milestone get us closer to the goal of implementing LID and hydromod controls in a timely manner?
3) Is it easy to measure; does it have a clear deliverable, a clear schedule, and a defined responsible party?
4) Does it provide an opportunity to leverage the resources of your municipality?
5) Does it have a broad level of acceptance among participating municipalities?
    a. Level of acceptance can be evaluated along gradients of agreement:
        - Oppose
        - Disagree, but willing to go along with larger group
        - Neutral
        - Can Live With
        - Support

Table 1: Components of a Successful Municipal Hydromodification and LID Program

Program Component	Description	Charette Exercise
Interim LID BMP	Municipalities can make substantial progress toward LID implementation during the two-year period before the specific numeric hydromodification criteria are available. The Project Milestones are the actions that municipalities will take to ensure new and redevelopment projects are optimizing LID and integrated management practices.	**1**
Applicability Thresholds	Applicability Thresholds are the specific conditions that make projects subject to water quality and/or hydromodification controls. Developing Applicability Thresholds requires information on the scale, type and potential for new and redevelopment. Project Milestones should establish the steps to compiling and analyzing that information and evaluating it relative to hydromodification criteria, once those criteria become available.	**2**
Municipal Code Updates	Municipal code updates that allow or require hydromodification control and LID, remove implementation obstacles.	**3**
BMP Design & Hydrologic Analysis Guidance	This technical guidance assists the user in calculating pre- and post- project runoff; identifying the types and design specifications for various structural BMPs; determining the appropriate modeling approach (e.g., event vs. continuous simulation); and, correctly evaluating model results to assess whether treatment and hydromodification control goals are met.	**4**
Hydromodification & LID Technical Assistance	The Project Milestone should provide assistance for municipal staff and those in the development community related to the technical understanding and implementation of hydromodification controls and use of LID.	**5**

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Charette Evaluation

Thank you for participating in today's charette. Please let us know what you think of this style of workshop and how we conducted it.

PARTICIPANT INFORMATION
Name (optional)
Job Title (optional)
Participant Type
Charette Team

RATINGS	1 = Poor	2 = Fair	3 = Satisfactory	4 = Good	5 = Excellent
Charette Organization and Format	☐	☐	☐	☐	☐
Comments					
Quality of Charette Materials	☐	☐	☐	☐	☐
Comments					
Scope of Activities (appropriateness)	☐	☐	☐	☐	☐
Comments					
Presenter's Communication/Listening Skills	☐	☐	☐	☐	☐
Comments					
Logistics (date, notice, facility, parking, etc.)	☐	☐	☐	☐	☐
Comments					

EVALUATION
ADDITIONAL COMMENTS